L 3.4 Systems of equations in three variables

Find the solution.	3x + 6y -2z = -6 -----> equation1 2x + y + 4z = 19 -----> equation 2 -5x -2y + 8z = 62 -----> equation 3
Step: 1 Multiply the equation 2 by -6 Combine equations 1 and 2	3x + 6y – 2z = -6 -12x - - =
Eliminate y terms	-9x -26z = -----> equation 4
Step : 2 Multiply equation 2 by 2 Combine equations 2 and 3	4x + y + z = 38 -5x -2y + 8z = 62
Eliminate y terms	-1x + = 100-----> equation 5
Step: 3 Multiply equation 5 by -9 Combine equations 4 and 5	9x - = - -9x -26 z = -120
Eliminate x terms	= -1020
	Z =
Step:4 Substitute z = in equation 5	-1x + 16( ) = 100 -1x + = 100 -1x = x =
Step: 5 Substitute x= and z = in equation 1	3x + 6y – 2z = -6 3( ) + 6y -2( ) = -6 + 6y - = -6 6y = -6 6y = Y =
Solution	(x,y,z) = (, ,)

LIVEWORKSHEETS